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PROD. &amp; UTIL. FAC. 50-247/286 (2.206)

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

DOCKETED  
USNRC

June 10, 1996

'96 JUN 11 A10:00

Ms. Connie Hogarth  
Westchester People's Action Coalition  
P.O. Box 488  
255 Grove Street  
White Plains, NY 10601

OFFICE OF SECRETARY  
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Dear Ms. Hogarth:

By letter dated May 18, 1995, you submitted a Petition requesting that the operating licenses for Indian Point Nuclear Generating Units 2 and 3 be suspended until the licensees for these units complete the actions requested by Generic Letter 95-03, "Circumferential Cracking of Steam Generator Tubes." You also requested a public meeting at which the NRC would explain its response to the suspension request. In my June 16, 1995, letter to you I denied both your request for an immediate suspension of the operating licenses of the Indian Point units and your request for a public meeting to explain this decision. I also stated that the Petition was being evaluated under 10 CFR 2.206 of the Commission's regulations, and that action would be taken in a reasonable time.

The NRC staff has completed its review of issues regarding the licensees' responses to Generic Letter 95-03. For the reasons given in the enclosed Director's Decision (DD-96-06) your Petition has been denied. A copy of the Decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 CFR 2.206(c). As provided by that regulation, the Decision will constitute the final action of the Commission 25 days after the date of issuance of the Decision unless the Commission, on its own motion, institutes a review of the Decision within that time. I have also enclosed a copy of the notice of "Issuance of Director's Decision Under 10 CFR 2.206" (including the complete text of DD-96-06) that is being filed with the Office of the Federal Register for publication.

Sincerely,

William T. Russell, Director  
Office of Nuclear Reactor Regulation

Enclosures: 1. Director's Decision 96-06  
2. Federal Register Notice

cc w/encls: See next page

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DS07

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Indian Point Nuclear Generating  
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USNRC DD-96-06

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

'96 JUN 11 A10:00

OFFICE OF NUCLEAR REACTOR REGULATION  
William T. Russell, Director

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of )

CONSOLIDATED EDISON COMPANY )  
OF NEW YORK )

Docket Nos. 50-247  
and 50-286

(Indian Point Nuclear Generating )  
Unit 2, Indian Point Nuclear )  
Generating Unit 3) )

License Nos. DPR-26  
DPR-64

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. INTRODUCTION

On May 18, 1995, Ms. Connie Hogarth (Petitioner) filed a Petition with the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 2.206. The Petitioner requested that the operating licenses for Indian Point Nuclear Generating Units 2 and 3 be suspended until the licensees have completed the actions requested by Generic Letter (GL) 95-03, "Circumferential Cracking of Steam Generator Tubes." The Petitioner also requested that the NRC hold a public meeting to explain its response to the suspension request.

The Petitioner stated that the impetus for GL 95-03 was the discovery at the Maine Yankee plant of steam generator tube cracks that had previously gone undetected due to inadequate inspection procedures. The Petitioner also stated that while GL 95-03 calls for comprehensive examination of steam generator tubes, it appears to allow licensees to postpone their evaluations until the next scheduled inspection.

On June 16, 1995, I informed the Petitioner that the Petition had been referred to my office for preparation of a Director's Decision. I informed

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the Petitioner that her request for immediate suspension of the operating licenses of Indian Point Nuclear Generating Units 2 and 3 was denied because the continued operation of these units posed no undue risk to public health and safety. I further informed the Petitioner that her request for a public meeting to explain the denial of her request for license suspension was denied, primarily because the NRC assessment of risk associated with steam generator tube rupture events has already been articulated in public documents.

## II. DISCUSSION

The Petitioner requested that the operating licenses for Indian Point Nuclear Generating Units 2 and 3 be suspended until the licensees have completed the actions required by GL 95-03. The Petitioner's request appears to be based on her belief that without the immediate completion of the requested actions of GL 95-03, the steam generators in Indian Point Nuclear Generating Units 2 and 3 could be susceptible to one or more steam generator tube ruptures brought about by existing circumferential cracks.

Generic Letter 95-03 was issued on April 28, 1995, after Maine Yankee shut down due to primary-to-secondary leakage through theretofore undetected circumferential steam generator tube cracks. The generic letter was intended to alert licensees to the importance of performing steam generator inspections with equipment capable of detecting degeneration to which the steam generator tubes are susceptible. GL-95-03 requested three actions of licensees of pressurized water reactors. It requested (1) that they evaluate their operating experience to determine whether or not they could have a circumferential cracking problem, (2) that based on this evaluation they

develop a safety assessment justifying continued operation until the next scheduled steam generator tube inspection, and (3) that they develop a plan for inspecting for circumferential cracking during the next steam generator tube inspection.

Stress corrosion cracking of the Indian Point Unit 2 steam generator tubes was first detected during the 1993 refueling outage. During the 1995 refueling outage Unit 2 conducted a steam generator inspection as required by their technical specifications; this inspection included a complete examination of all areas deemed most susceptible to circumferential cracking. This inspection, which used enhanced techniques and eddy current probes sensitive to indications of circumferential cracking, identified 114 tubes with potential circumferential crack indications; however, these may actually have been closely spaced axial indications. Since the licensee could not conclusively determine that these 114 tubes did not contain indications of circumferential cracks the worst case was assumed, that is, that the indications were in fact circumferential. The indications were logged as circumferential and all of these tubes were removed from service before the unit was restarted. All of the logged circumferential indications were deep within the tubesheet. The fact that the indications were all within the tubesheet is significant since, if a circumferential failure were to occur at this location, the structural strength lent to the tubes by the tubesheet would reduce the amount of primary-to secondary leakage. The licensee for Indian Point Unit 2 will continue to use inspection techniques capable of detecting circumferentially oriented tube degradation.

Because pitting corrosion had caused deterioration of the Indian Point Unit 3 steam generators, they were replaced in 1989 with steam generators



designed and fabricated to reduce the possibility of corrosion-related problems; specifically, the new generators have tubes made of thermally treated Alloy 690. Four other nuclear plants in the United States have thermally treated Alloy 690 tubes and to date neither Indian Point Unit 3 nor any of the other four units have experienced tube cracks.

Circumferential cracking of steam generator tubes is accompanied by other forms of tube degradation that are readily detected by bobbin coil inspections. Since the bobbin coil inspections at Indian Point 3 have detected no service induced tube degradation, the staff has concluded that Indian Point 3 does not have a circumferential tube cracking problem. Indian Point 3 has not yet experienced steam generator tube degradation; nevertheless, the licensee has committed to performing an augmented inspection for indications of circumferential cracking during the next scheduled steam generator inspection. Unit 3 is currently operating and this inspection is required by May 1997.

The requirements placed on licensees to ensure steam generator tube integrity go beyond the requested actions of GL-95-03. Steam generator tube degradation is dealt with through a combination of inservice inspection, tube plugging and repair criteria, primary-to-secondary leak rate monitoring, and water chemistry analysis. In addition to the steam generator inspections required by their technical specifications, both Indian Point Nuclear Generating Units 2 and 3 are required to monitor primary-to-secondary leakage to ensure that, in the event that steam generator tubes begin to leak, operators will be able to bring the plant to a depressurized condition before



a tube ruptures. In addition, both units are required to implement secondary water chemistry management programs that are designed to minimize steam generator tube corrosion.

The layers of protection that licensees are required to implement make multiple steam generator tube ruptures unlikely events. The NRC issued the results of its study of the risk and potential consequences of a range of steam generator tube rupture events in NUREG-0844, "NRC Integrated Program for the Resolution of Unresolved Safety Issues A-3, A-4, and A-5 Regarding Steam Generator Tube Integrity" dated September 1988. The staff estimated the risk contribution due to the potential for multiple steam generator tube ruptures. A combination of circumstances is required to produce such failures, specifically: (1) a main steam line break or other loss of secondary system integrity, (2) the existence of a large number of tubes susceptible to rupture in a particular steam generator, (3) the failure of operators to take action to avoid high differential pressure, and (4) the actual simultaneous rupture of a large number of tubes. In the NUREG-0844 assessment, the staff concluded that the probability of simultaneous multiple tube failure was small (approximately  $10^{-5}$ ), and the risk resulting from releases during steam generator tube ruptures with loss of secondary system integrity was also small.

### III. CONCLUSION

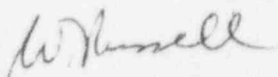
Based on the facts that (1) adequate steam generator tube inspections have been performed at both Indian Point Nuclear Generating Units 2 and 3, (2) Unit 2 steam generator tubes that showed signs of circumferential cracking have been removed from service, (3) Unit 3 steam generator tubes show no sign of service induced corrosion, (4) Items (1), (2), and (3) above collectively

constitute an acceptable response to the requested actions of GL-95-03 for both units, (5) operational limits are placed on primary to secondary leakage, (6) the risk of multiple steam generator tube rupture events is small, and (7) the NRC assessment of risk associated with steam generator tube rupture events has already been articulated in public documents (NUREG-0844 and GL 95-03), I have concluded that neither the suspension of the licenses of Indian Point Nuclear Generating Units 2 and 3 nor the holding of a public meeting to explain this decision is warranted.

The Petitioner's request for action pursuant to 10 CFR 2.206 is denied. As provided in 10 CFR 2.206(c), a copy of the Decision will be filed with the Secretary of the Commission for the Commission's review. This Decision will constitute the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes a review of the Decision within that time.

Dated at Rockville, Maryland, this 10th day of June 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



William T. Russell, Director  
Office of Nuclear Reactor Regulation

DOCKETED  
USNRCUNITED STATES NUCLEAR REGULATORY COMMISSION

'96 JUN 11 A10:01

CONSOLIDATED EDISON COMPANY OF NEW YORKINDIAN POINT NUCLEAR GENERATING UNITS 2 AND 3OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCHDOCKET NOS. 50-247 AND 50-286ISSUANCE OF DIRECTOR'S DECISIONUNDER 10 CFR 2.206

Notice is hereby given that the Director, Office of Nuclear Reactor Regulation, has taken action with regard to a Petition dated May 18, 1995, by Ms. Connie Hogarth (Petition for action under 10 CFR 2.206). The Petition pertains to Indian Point Nuclear Generating Units 2 and 3.

In the Petition, the Petitioner requested that the operating licenses for Indian Point Units 2 and 3 be suspended until the licensees have completed the actions requested by Generic Letter 95-03. The Petitioner also requested that the U.S. Nuclear Regulatory Commission hold a public meeting in the vicinity of the plant to explain its response to this request.

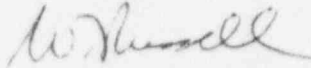
The Director, Office of Nuclear Reactor Regulation, has determined to deny the Petition. The reasons for this denial are explained in the "Director's Decision Pursuant to 10 CFR 2.206" (DD-96-06), the complete text of which follows this notice, and is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, D.C.

A copy of the Decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 CFR 2.206(c) of the Commission's regulations. As provided by this regulation, the Decision will constitute the final action of the Commission 25 days after the date of issuance unless the Commission, on its own motion, institutes a review of the Decision within that time.

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Dated at Rockville, Maryland, this 10<sup>th</sup> day of June 1996.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "W. Russell", written in a cursive style.

William T. Russell, Director  
Office of Nuclear Reactor Regulation